

**Before the
Federal Communications Commission
Washington, D.C. 20554**

In the Matter of)	
)	
Amendment of Parts 25, 74, 78 and 101 of the)	
Rules regarding Coordination between the Non-)	ET Docket No. 03-254
Geostationary and Geostationary Satellite Orbit)	
Fixed-Satellite Service and Fixed, Broadcast)	
Auxiliary and Cable Television Relay Services in)	
the 7 GHz, 10 GHz and 13 GHz Frequency Bands)	
)	

REPORT AND ORDER

Adopted: January 14, 2010

Released: January 20, 2010

By the Commission:

I. INTRODUCTION

1. By this action, we specify rules and procedures to be used for frequency coordination between terrestrial Broadcast Auxiliary Service and Cable Television Relay Service (“BAS/CARS”) operations and geostationary satellite orbit (“GSO”) or non-geostationary satellite orbit (“NGSO”) fixed-satellite service (“FSS”) operations in the 6875-7075 MHz (“7 GHz”) and 12750-13250 MHz (“13 GHz”) bands. We do not adopt at this time a “Growth Zone” proposal that would have supplemented our existing terrestrial coordination procedures between NGSO FSS space-to-Earth operations and existing fixed service (“FS”) operations in the 10.7-11.7 GHz (“10 GHz”) band, and will retain our existing coordination rules.¹ Our decision herein supports prior Commission actions intended to allow new satellite services in frequency bands used by various fixed and mobile operations and addresses issues raised in the *Notice of Proposed Rulemaking* (“*Notice*”) in this proceeding.² This action will permit satellite and terrestrial services operating in these bands to continue to coordinate their spectrum use in an efficient manner.

II. BACKGROUND

2. In the *Notice*, the Commission sought comment on various issues consolidated from several proceedings that relate to frequency coordination rules and procedures for the 7 GHz and 13 GHz bands between BAS/CARS and GSO or NGSO FSS licensees, and for the 10 GHz band between FS and GSO or NGSO FSS licensees.³ The 7 GHz and 13 GHz bands are allocated for fixed and mobile BAS/CARS

¹ See, e.g., 47 C.F.R. §§ 25.203, and 25.251.

² See *Amendment of Parts 25, 74, 78 and 101 of the Rules regarding Coordination between the Non-Geostationary and Geostationary Satellite Orbit Fixed-Satellite Service and Fixed, Broadcast Auxiliary and Cable Television Relay Services in the 7 GHz, 10 GHz and 13 GHz Frequency Bands*, ET Docket No. 03-254, *Notice of Proposed Rule Making*, 18 FCC Rcd 26831 (2003) (“*Notice*”).

³ The coordination issues we address herein were raised and deferred from three different proceedings: 1) *Amendment of Parts 2 and 25 of the Commission’s Rules to Permit Operation of NGSO FSS Systems Co-Frequency with GSO and Terrestrial Systems in the Ku-Band Frequency Range*, ET Docket No. 98-206, *First Report and Order and Further Notice of Proposed Rule Making*, 16 FCC Rcd 4096 (2000) (“*NGSO FSS Ku-Band* (continued....)”).

operations that perform a variety of broadcast related communications. Mobile operations in these bands are used to perform impromptu electronic newsgathering (“ENG”) at the scene of a breaking event and to cover scheduled events, such as sports or political events. BAS/CARS mobile units operate in a variety of configurations within an authorized operational area, and often transmit from an ENG truck directly to a fixed receiver at the television station or through a relay link at a remote fixed receiver location. Fixed operations in these bands include BAS fixed point-to-point stations under Part 74, such as studio-transmitter links (“STL”), TV relay (“TVR”), TV translator relay (“TTR”), and TV microwave booster (“TVB”) stations, and fixed CARS stations under Part 78 used in point-to-multipoint configurations to distribute content throughout a cable television system or from one cable television system to another. The 7 GHz band is also allocated to NGSO FSS downlinks and the 13 GHz band, to NGSO FSS uplinks, limited to feeder link operations for NGSO mobile-satellite service (“MSS”) and NGSO FSS systems, respectively. These downlink and uplink operations support the backhaul communication needs of MSS and FSS networks. The 10 GHz band is primarily used by the terrestrial FS for point-to-point operations, and continues to serve as an important relocation band for such operations relocating from other bands. NGSO FSS downlink and uplink operations that support communications networks’ backhaul needs were also recently allocated spectrum in the 10 GHz band, in addition to the existing use by GSO FSS operations supporting international communications.⁴

3. The coordination procedures at issue in this proceeding make it possible for the diverse satellite and terrestrial services allocated in these bands to share the spectrum by minimizing the potential for interference and providing procedures to resolve concerns if they should arise. We describe these proposals in the following paragraphs. In the most general terms, the Commission proposed to apply coordination procedures to these services and bands that are already codified in its rules for other services and bands.⁵

4. In the *Notice*, the Commission sought comment⁶ on the need for any changes to the “notice and response” frequency coordination rules and procedures for coordination between fixed or mobile BAS/CARS and GSO or NGSO FSS operations in the 7 GHz and 13 GHz bands.⁷ Under the “notice and response” frequency coordination rules and procedures, coordination of new facilities must be accomplished before an authorization is granted. Parties seeking to operate in these bands must notify all

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R&O”); 2) *Amendment of Parts 2, 25 and 97 of the Commission’s Rules with Regard to the Mobile-Satellite Service Above 1 GHz*, ET Docket No. 98-142, *Report and Order*, 17 FCC Rcd 2658 (2002) (“*MSS Feeder Link R&O*”); *Amendment of Parts 2, 25 and 97 of the Commission’s Rules with Regard to the Mobile-Satellite Service Above 1 GHz*, ET Docket No. 98-142, *Memorandum Opinion and Order*, 18 FCC Rcd 6897 (2003) (“*MSS Feeder Link MO&O*”) at ¶ 21 n. 46; 3) *Revisions to Broadcast Auxiliary Service Rules in Part 74 and Conforming Technical Rules for Broadcast Auxiliary Service, Cable Television Relay Service and Fixed Services in Parts 74, 78 and 101 of the Commission’s Rules*, ET Docket No. 01-75, *Report and Order*, 17 FCC Rcd 22979 (2002) (“*BAS/CARS R&O*”). For additional background and more information about the use of these bands see the *Notice*, 18 FCC Rcd at 26832-34, ¶¶ 2-6.

⁴ GSO FSS operations are limited to “international systems,” e.g. other than domestic systems, in the 10GHz and 13 GHz bands. See 47 C.F.R. 2.106 ng104.

⁵ See *Notice*, 18 FCC Rcd at 26831, ¶ 1. We note that Mobile-Satellite Service (“MSS”) entities use FSS spectrum in these bands for feeder link operations in support of their networks. See generally *MSS Feeder Link R&O*, 17 FCC Rcd 2658; see also *MSS Feeder Link MO&O*, 18 FCC Rcd 6897, ¶ 21 n. 46.

⁶ See *Notice*, 18 FCC Rcd at 26840-44, ¶¶ 22-34. See also *MSS Feeder Link R&O*, 17 FCC Rcd at 2681-82, ¶¶ 55-57 (deferring consideration of need for further modifications to coordination rules for sharing in the 6875-7075 MHz “7 GHz” band).

⁷ These frequency coordination rules and procedures are codified in Section 101.103(d) of Commission Rules and incorporated by reference in Parts 25, 74, and 78 of the Commission’s Rules and are discussed in greater detail, below. 47 C.F.R. § 101.103(d).

potentially affected licensees and applicants and resolve any conflicts or technical problems identified in their responses from within 30 days of notification, and prior to filing applications for licenses.⁸ These procedures are sometimes called the “prior coordination” rules. An application for a license that would require prior coordination must contain a certification of completion of coordination, including notifications and responses, and a list of licensees/applicants notified. Once the station is coordinated and a license application is filed, the applicant/station is entitled to protection from future applicants.

5. The Commission also sought comment on permitting mobile BAS/CARS operators to use the *ad hoc* coordination procedures in Sections 74.638(d) and 78.36(d) of the Commission’s Rules instead of the “notice and response” rules when a mobile BAS/CARS licensee initiates coordination in the 7 GHz and 13 GHz bands with GSO or NGSO FSS operations.⁹ The flexible and less formal *ad hoc* procedures are used to coordinate spectrum operations that frequently require real-time and ongoing onsite coordination efforts, and differ from the more formal “notice and response” coordination procedures in Section 101.103(d) in that the *ad hoc* procedures simply place responsibility upon applicants for selecting frequencies that are least likely to result in mutual interference with other licensees in the same area. Applicants may consult local frequency coordination committees, where they exist, for information on frequencies available in the area.¹⁰ No specific procedures are provided for identifying frequencies or contacting other users in the area. Further, the local *ad hoc* coordination process does not require evidence of the accomplishment of frequency coordination to obtain a license, because coordination occurs on an ongoing or as needed basis.

6. The Commission also sought comment on a “Growth Zones” proposal, which suggested further changes to the frequency coordination procedures in Part 25 of Commission rules to promote sharing between NGSO FSS and terrestrial FS in the 10 GHz band.¹¹ Under that proposal, the prior coordination rules would be modified and supplemented to impose five conditions on NGSO FSS applicants initiating coordination to site earth stations in counties where the growth of fixed point-to-point operations was likely (referred to as “growth zones”).¹²

III. DISCUSSION

A. “Notice and Response” Frequency Coordination in the 7 GHz and 13 GHz Bands.

7. In the *Notice*, the Commission noted that it had previously adopted “notice and response” frequency coordination procedures to be used between FSS and FS operations in the 6700-6875 MHz band and among BAS/CARS operations in the 7 GHz and 13 GHz bands. However, the Commission had not adopted final rules for coordination between FSS and BAS/CARS in the 7 GHz and 13 GHz bands.¹³

⁸ If no response is received within the 30-day period, the applicant will be deemed to have made reasonable efforts to coordinate and may file its application. 47 C.F.R. § 101.103(d)(2)(iv).

⁹ See *BAS/CARS R&O*, 17 FCC Rcd 22979.

¹⁰ Local frequency coordination committees are typically groups of or individual broadcast or cable entities who volunteer to assist other broadcast and cable entities in selecting frequency assignments to avoid interference to other broadcast and cable users in an area.

¹¹ See *NGSO FSS Ku-Band R&O*, 16 FCC Rcd 4096 (2000) (deferring consideration of the Growth Zones petition); See *FCC Seeks Comment on SkyBridge and FWCC Ex Parte Filings on Regulatory Scheme for Shared Use of the 10.7-11.7 GHz Band*, ET Docket No. 98-206, *Public Notice*, DA 99-3008 (rel. Dec. 27, 1999) (“*Growth Zone Public Notice*”).

¹² See *Notice*, 18 FCC Rcd at 26831, ¶ 1 n.1 (discussing *ex parte* comments by SkyBridge L.L.C. (SkyBridge) and Fixed Wireless Communications Coalition (FWCC), proposing the “Growth Zones” approach to modifying prior coordination rules).

¹³ See *Notice*, 18 FCC Rcd at 26833-34, ¶¶ 5-6.

The general “notice and response” approach, as set forth in the Rules, requires an applicant for a license to (1) identify the potential for interference that its proposed operations may have on incumbent users; (2) provide “notice” to potentially affected parties; (3) resolve any concerns voiced in the affected party’s “response;” and (4) file a certification of the frequency coordination results with its license application.¹⁴ The purpose of these rules is to ensure that an applicant and an incumbent licensee reach agreement on frequency coordination prior to the grant of a license to the new entrant. Thus, the new entrant should design its facilities in a way that will avoid interference to incumbent users in the band. The Commission asked whether modifications to its “notice and response” frequency coordination rules or procedures were necessary to ensure coordination between GSO or NGSO FSS and fixed or mobile BAS/CARS operations in the 7 GHz and 13 GHz bands.¹⁵

8. The Commission, in deferring to this proceeding consideration of issues relating to sharing between GSO or NGSO FSS and BAS/CARS operations in the 7 and 13 GHz bands, looked to past successes in using the prior coordination rules to deploy FSS earth stations in the 7 GHz and 13 GHz bands, but also recognized the potential challenges to successful coordination in these bands.¹⁶ The Commission tentatively found that because fixed BAS facilities are similar, if not identical, to Part 101 FS facilities in frequency, technical characteristics, limitations, and use, the existing procedures used to coordinate GSO or NGSO FSS and FS should be used to coordinate GSO or NGSO FSS and fixed BAS/CARS in the 7 and 13 GHz band.¹⁷ Mobile BAS/CARS operations, on the other hand, typically include mobile television pickup operations (“TVPU”) facilities that operate in a variety of configurations, are used in a variety of situations including impromptu coverage of breaking news events, and usually are authorized to operate anywhere across a wide geographic area.¹⁸ Nevertheless, the Commission tentatively concluded that the existing prior coordination procedures provide sufficient flexibility for the parties to negotiate solutions that will reduce the likelihood of interference by, for example, shielding the earth station in satellite downlink bands or constraining operations by various other means.¹⁹ Accordingly, the Commission sought comment on what modifications, if any, were necessary to the prior coordination rules to protect mobile BAS/CARS users in the band.²⁰

9. Commenters representing both GSO and NGSO FSS interests in both the 7 GHz and 13 GHz bands fully support and urge adoption of the FSS and FS prior coordination procedures in Sections 25.203(c) and 101.103(d) for coordinating GSO or NGSO FSS with fixed BAS/CARS facilities. Commenters note that such procedures have proven successful in coordinating similar FS fixed facilities

¹⁴ 47 C.F.R. § 101.103(d). See also §§ 25.203(c), 74.638(b), and 78.36(b); *MSS Feeder Link R&O*, 17 FCC Rcd at 2681-82, ¶¶ 55-57.

¹⁵ See *Notice*, 18 FCC Rcd at 26833-34, ¶¶ 5-7. The *Notice* asked whether any changes to the general coordination process, as described in Sections 101.103(d) and 25.203(c) of the Rules, were necessary in Sections 74.638(b) and 78.36(b) of the Rules (which address BAS and CARS, respectively). See also *BAS/CARS R&O*, 17 FCC Rcd at 23003-04, ¶¶ 60-62, 64; *MSS Feeder Link R&O*, 17 FCC Rcd at 2681-82, ¶¶ 55-57; *NGSO FSS Ku-Band R&O*, 16 FCC Rcd at 4147-48, ¶ 128 (adopting these procedures for the bands).

¹⁶ In the *Notice* the Commission noted that this process has been successful in facilitating coordination in the 7025-7075 MHz band between three grandfathered FSS downlink earth stations and mobile BAS/CARS TVPU stations, as well as between a FSS uplink earth stations and mobile BAS/CARS TVPU stations in the 13 GHz band. See *Notice*, 18 FCC Rcd at 26842, ¶ 27.

¹⁷ See *Notice*, 18 FCC Rcd at 26844, ¶ 34.

¹⁸ See *Notice*, 18 FCC Rcd at 26837-38, ¶¶ 16-17.

¹⁹ See *Notice*, 18 FCC Rcd at 26841, ¶ 26.

²⁰ These included coordination distances, the time period in which coordination must be completed, and any additional technical criteria, such as baseline interference, threshold degradation, and default criteria, that are specified in our Rules. See *Notice*, 18 FCC Rcd at 26840-42, ¶¶ 23, 25, and 32.

with GSO or NGSO FSS earth stations in or near the 7 GHz and 13 GHz bands.²¹ Commenters also state that they expect to be able to protect fixed BAS/CARS facilities at 13 GHz with minimal difficulty, especially outside major metropolitan areas.²² Acknowledging the utility of the prior coordination procedures, SBE also suggests additional protections for BAS/CARS operations in the form of “preclusion” or “keep away” areas for earth station siting.²³

10. Based on this record, we will require the use of the “notice and response” prior coordination procedures for coordination between GSO or NGSO FSS and fixed BAS/CARS operations. We conclude that requiring the use of those procedures for coordination of operations in these services will enable more efficient use of the 7 GHz and 13 GHz bands by permitting the different services to coordinate and operate on a cooperative basis. Moreover, and as indicated in the *Notice*, we believe that uniform coordination procedures for similar services will simplify our rules and the frequency coordination process.²⁴

11. We will also require GSO or NGSO FSS applicants to use the “notice and response” prior coordination procedures when they initiate coordination with mobile BAS/CARS licensees.²⁵ The prior coordination process provides the opportunity for GSO or NGSO FSS applicants, prior to the licensing and operation of an earth station, to identify and implement measures to protect against potential harmful interference, and will facilitate sharing during mobile BAS/CARS service deployments. For example, FSS applicants can consider existing BAS/CARS receiver locations when making site selections, and can incorporate attenuation measures into their facility designs.

12. We will permit mobile BAS/CARS to coordinate with GSO or NGSO FSS entities under either the “notice and response” prior coordination procedures or the *ad hoc* coordination procedures we discuss in further detail below. The record reflects that local broadcast coordinators should be able to assist in identifying mobile television pickup operations (“TVPU”) receive sites for protection, thereby facilitating GSO or NGSO FSS coordination. Further, as noted by Boeing, GSO and NGSO FSS earth stations can work cooperatively with TVPU licensees regarding the specifics of sharing agreements pursuant to such coordination.²⁶

13. We find that the “notice and response” process in the prior coordination procedures will provide ample opportunity for fixed or mobile BAS/CARS incumbents to identify and provide details regarding potentially affected facilities when coordinating with GSO or NGSO FSS operators. This process will provide sufficient flexibility for all affected parties to reach agreement concerning measures for reducing the likelihood of interference. We recognize that there are challenges inherent in coordination between a permanent fixed operation, such as GSO or NGSO FSS earth station, and temporary fixed or mobile BAS/CARS operations, such as those involving news gathering trucks or helicopters. Unlike coordination between one fixed operation and another fixed operation – a scenario to which “notice and response” prior coordination procedures typically apply, coordination between fixed operations and

²¹ See XM Reply Comments at 5-6 (discussing successful coordination of its 7 GHz FSO uplink in Washington, D.C. area); MSV Reply Comments at 4 (discussing successful coordination and 10-year operation without interference complaints in the Washington, D.C. of 13 GHz uplink); see also Globalstar Reply Comments at 6 (discussing 70-year successful history of “first-in, first-in-right” principle of prior coordination regime).

²² See generally Boeing Comments at 2-5; MSV Reply Comments at 4-5; XM Reply Comments at 5-6.

²³ See text and accompanying notes, *infra* para. 15; Comments of SBE at 4; but see e.g. MSV Reply Comments at 4-5.

²⁴ See *Notice*, 18 FCC Rcd at 26845, ¶ 35.

²⁵ We note that because the record reflects no clear need to change the present notice and comment procedures to account for the mobile nature of BAS/CARS facilities, we are applying the current rules without alteration.

²⁶ See Boeing Comments at 2-5.

temporary fixed or mobile operations requires an anticipation of where the temporary fixed or mobile operations may occur at a future time beyond the coordination.

14. Accordingly, we look to the parties to exercise flexibility in order to ensure successful sharing through these procedures. For example, we would expect prospective FSS licensees to select sites sufficiently removed from typical mobile BAS/CARS areas of use to reasonably accommodate the frequencies and look angles for which the FSS licensees seek coordination. Moreover, because NGSO FSS use of the 7 GHz and 13 GHz bands is limited to feeder links, we would expect NGSO FSS licensees to seek coordination only for frequencies and look angles that they reasonably anticipate using over the life of the system. Similarly, while BAS and CARS licensees are often authorized to operate over a large geographic area, such as a metropolitan area, we do not envision that they will object to prior coordination requests from FSS licensees on the sole basis that an earth station placed in or near their licensed area could impinge upon future deployment of temporary fixed or mobile BAS/CARS operations anywhere in that area. Rather, BAS/CARS licensees should object only where they anticipate interference into fixed receive sites used in conjunction with mobile BAS/CARS transmitters, or into areas in which they reasonably expect to operate. Such areas may include, for example, those in which they have operated on past occasions or which are likely to require coverage for news events in the future, such as convention centers, court houses, or sports venues. We envision that such coordination between FSS and BAS/CARS licensees in the band will lead to efficient shared use of the bands, including the availability of some spectrum for both FSS and BAS/CARS licensees in or near high-demand markets.

15. While we set forth expectations above, we do not believe that it is necessary to modify the rules for “notice and response” prior coordination procedures in this regard. We reject SBE’s suggestions for additional protection for BAS/CARS operations as “preclusion” or “keep away” areas, as the overall record generated in this proceeding offers no compelling reason for deviating from a “notice and response” coordination approach.²⁷ Moreover, we agree with those commenting parties that argue that many of SBE’s proposals would make the coordination process potentially more burdensome and complex with minimal benefit in return.²⁸ Also, to the extent that SBE requests that we revisit those rules relating to the scope of FSS operations in the band – such as limiting the coordination of earth stations to only the spectrum and look angles to be put in use at the start of operations – we agree with other commenters that such matters have been fully considered and addressed in prior proceedings and see no need to revisit them here.

16. In the *Notice* the Commission expressed its belief that use of these criteria will be as successful for protecting fixed BAS/CARS receivers as they have proven to be for FS and other receivers. We had sought comment as to whether or to what values the interference protection criteria contained in Sections 101.105(a), (b), and (c) should be amended in order to address the protection of mobile and fixed receivers used in conjunction with mobile BAS/CARS stations. Commenters provided no views on this matter.

17. Accordingly, we will extend the existing “notice and response” coordination procedures in Sections 25.203(c) and 25.251(a) to coordination of new GSO and NGSO FSS earth stations with fixed BAS/CARS stations in the 7 GHz and 13 GHz bands. For coordination of new fixed BAS/CARS stations with GSO or NGSO FSS earth stations, we will apply the coordination procedures set forth in Section

²⁷ Compare Comments of SBE at 4 (asking the Commission, *inter alia*, to prohibit earth stations in “preclusion” or “keep away” areas within 150 km of the top 100 TV markets), with MSV Reply Comments at 4-5 (agreeing with Boeing that coordination between uplink FSS earth stations and BAS/CARS operators is feasible due to the small number of uplink earth stations in the band, the ability of earth station operators to identify locations that minimize sharing difficulties, and the ability of BAS/CARS operators to use interference mitigation techniques).

²⁸ See MSV Reply Comments at 5; XM Reply Comments at 5-6. See also PanAmSat and SES Americom March 19, 2004 *ex parte* filing at 3-4.

101.103(d) by amending Sections 74.638(b) and 78.36(b) to reflect the Part 101 procedures.²⁹ We adopt the approach described in the *Notice*, and will apply the existing FS interference protection criteria in Sections 101.105(a), (b), and (c) for the protection of fixed BAS/CARS receivers by new GSO or NGSO FSS earth stations. While we recognize that mobile BAS/CARS facilities have somewhat different characteristics from fixed facilities that can affect their potential to cause and receive interference, we continue to believe that the overall structure of our existing prior coordination procedures provide sufficient flexibility for the parties to negotiate solutions that will reduce the likelihood of interference. As indicated in the *Notice* and demonstrated by the success of its use with coordination of related services, we believe that the approaches described above for coordinating FSS (both NGSO and GSO) and BAS/CARS mobile operations achieve a balance between the needs of FSS licensees for certainty and reliability and the needs of BAS/CARS for flexibility. Thus we will apply the existing FS interference protection criteria in Sections 101.105(a), (b), and (c) for the protection of mobile BAS/CARS receivers by new GSO or NGSO FSS earth stations.

B. “Ad Hoc” Frequency Coordination in the 7GHz and 13 GHz Bands.

18. The Commission also previously modified the coordination procedures for mobile BAS/CARS in the 7 GHz and 13 GHz bands to allow these entities, when they are coordinating among themselves, to use either the “notice and response” coordination procedures of Section 101.103(d), or the informal local *ad hoc* coordination procedures of Sections 74.638(d) and 78.36(d).³⁰ In the instant proceeding, the Commission sought comment on the use of this approach for sharing between BAS/CARS and satellite operations in the 7 GHz and 13 GHz bands. Local *ad hoc* coordination, defined in Sections 74.638(d) and 78.36(d) of the Commission’s Rules, requires applicants to select frequencies that are least likely to result in mutual interference with other licensees in the same area. No specific procedures are provided for identifying such frequencies or contacting other users in the area. Because coordination occurs on an ongoing or as needed basis, the formalized frequency coordination procedures employed in the “notice and response” coordination process are not required in order to obtain a license. As described above, the *ad hoc* coordination process is generally more flexible and less formal than the “notice-and-response” coordination procedures, and can be used to coordinate spectrum operations that frequently require real-time and ongoing onsite coordination efforts.³¹ Thus, the *ad hoc* procedures offer BAS/CARS users greater flexibility to deploy services, especially in the case of mobile TVPU applications where a rapid response to a breaking news event is often necessary.

19. In the *Notice*, the Commission tentatively concluded that allowing mobile BAS/CARS operators the flexibility to use the *ad hoc* procedures in lieu of “notice and response” coordination would promote their sharing with the relatively small number of co-primary FSS operations anticipated in the band and could minimize coordination burdens and regulatory oversight, just as the *ad hoc* procedures have benefited sharing between fixed or mobile BAS/CARS operations.³² Commenters representing satellite interests support allowing mobile BAS/CARS operators to use either the *ad hoc* procedures or the “notice and response” procedures for coordination with FSS earth stations. Boeing observes that these FSS and BAS/CARS coordination rules are designed to enable flexible sharing, and that the rules fully accommodate the needs of both satellite and mobile BAS/CARS entities to share on a cooperative basis

²⁹ See Appendix C: Final Rules, Sections 74.638(b) and 78.36(b) (no changes are necessary for Sections 25.203(c) and 101.103(d)). These procedures will apply where the prospective fixed BAS/CARS facilities are within the coordination contour of the FSS earth station, as defined in the ITU Appendix 7. See, e.g., 47 C.F.R. § 25.251. Our rule modifications do not alter this overall approach.

³⁰ See *BAS/CARS R&O*, 17 FCC Rcd at 23003-05, ¶¶ 60-62, 64.

³¹ See *supra* para. 2.

³² See *Notice*, 18 FCC Rcd at 26842, ¶ 27.

without imposing excessive burdens on any entity.³³ XM and MSV agree that, at 7 GHz and 13 GHz, these procedures will achieve a balance between the needs of FSS licensees for certainty and reliability, and of mobile BAS/CARS licensees for flexibility.³⁴ Commenters representing BAS/CARS licensees also support this approach.³⁵

20. As supported by the record in this proceeding, we continue to believe that allowing BAS/CARS operators to choose between “notice and response” and *ad hoc* coordination will promote sharing in the 7 GHz and 13 GHz bands and minimize the coordination burdens and need for our regulatory oversight. We note that the *ad hoc* coordination process requires the cooperation of the affected parties, but affords mobile services maximum flexibility with regard to deployment. However, the more formal “notice and response” coordination procedures can provide GSO or NGSO FSS operators with additional certainty of protection from mobile BAS/CARS operations by providing the opportunity to identify potential sharing concerns and take appropriate action prior to licensing and operation. For example, we note that some of these decisions – such as site location and design – are most logically made before FSS operators begin operation; if later, a mobile BAS/CARS licensee opts to exercise *ad hoc* coordination, we would expect the coordination process to be facilitated because those prior decisions promoted a more favorable overall sharing environment. Furthermore, as discussed in the *Notice*, these two coordination approaches have been adequate to address sharing with BAS/CARS fixed operations and offer sufficient protection between mobile BAS/CARS and GSO or NGSO FSS operations while achieving an important goal of avoiding unnecessary burden and regulatory oversight.³⁶

21. For the foregoing reasons, we will allow mobile BAS/CARS entities initiating coordination to use either prior coordination or *ad hoc* procedures when coordinating with GSO or NGSO FSS operations in the 7 GHz and 13 GHz bands (as discussed above, GSO or NGSO FSS and fixed BAS/CARS applicants must use the prior coordination rules).³⁷ Accordingly, we modify our Rules to clarify the bands in which applicants for mobile BAS/CARS have the flexibility to use either the informal *ad hoc* or more structured “notice and response” prior coordination procedures.³⁸

C. Growth Zones Proposal.

22. In the *Notice* the Commission sought comment on a “Growth Zones” proposal that would change the NGSO FSS earth station siting rules in Part 25 of Commission rules to promote sharing between NGSO FSS and terrestrial fixed services in the 10 GHz band.³⁹ The “Growth Zones” proposal was based on a pleading by SkyBridge L.L.C. (“SkyBridge”), an NGSO FSS applicant, and the Fixed

³³ See Boeing Comments at 4-5; Boeing Reply Comments at 1-2, 7. Satellite commenters generally support this view.

³⁴ See XM Reply Comments at 1, 6; MSV Reply Comments at 1, 5.

³⁵ See generally Comments of SBE at 4.

³⁶ See *Notice*, 18 FCC Rcd at 26842, ¶ 28.

³⁷ See Appendix C: Final Rules, Sections 74.638 and 78.36 (no changes are necessary for Sections 25.203, 25.251, and 101.103(d)). See *NPRM*, 18 FCC Rcd at 26848-51, ¶ 90. See also *BAS/CARS R&O*, 17 FCC Rcd at 23004, ¶ 62 and Appendix A.

³⁸ As noted in the *Notice*, when the Commission modified sections 74.638 and 78.36 of the Rules as part of the *BAS/CARS R&O*, it inadvertently failed to state that the rules applied to all bands above 2110 MHz, except 6425-6525 MHz and 17.7-19.7 GHz. See *Notice*, 18 FCC Rcd at 26845, ¶ 34 n.56.

³⁹ See *Amendment of Parts 2 and 25 of the Commission’s Rules to Permit Operation of NGSO FSS Systems Co-Frequency with GSO and Terrestrial Systems in the Ku-Band Frequency Range*, ET Docket No. 98-206, *First Report and Order and Further Notice of Proposed Rule Making*, 16 FCC Rcd 4096 (2000) (“*NGSO FSS Ku-Band R&O*”) (deferring consideration of the Growth Zones petition); *FCC Seeks Comment on SkyBridge and FWCC Ex Parte Filings on Regulatory Scheme for Shared Use of the 10.7-11.7 GHz Band*, ET Docket No. 98-206, *Public Notice*, DA 99-3008 (rel. Dec. 27, 1999) (“*Growth Zone Public Notice*”).

Wireless Communications Coalition (“FWCC”), an association representing FS licensees in the 10 GHz band. The proposal was intended to modify and supplement the prior coordination procedures between NGSO FSS and FS operations in the band.⁴⁰ The parties proposed a mechanism to identify counties where the growth of fixed point-to-point operations was likely (referred to as “growth zones”).⁴¹ Skybridge and FWCC proposed that siting of NGSO FSS earth stations in a growth zone be subject to a list of conditions in order to permit the siting of earth stations in areas of intense FS use while ensuring the deployment of future fixed service operations in those areas.⁴² This proposal was designed to address what was expected to be an imminent, substantial, and novel sharing scenario between the newly authorized NGSO FSS and terrestrial incumbents.

23. The Commission sought comment on the “Growth Zones” proposal offered by SkyBridge and FWCC. Subsequently, SkyBridge contacted the Commission and declined to accept its 10 GHz band NGSO FSS authorization.⁴³ The only other remaining NGSO FSS licensee, Virtual Geosatellite LLC (“VirtualGeo”), subsequently surrendered its license.⁴⁴ Thus, the imminent deployment of NGSO FSS earth stations in this band that was anticipated at the time of the *Notice* is no longer at issue.

24. We conclude that, given the above developments with respect to the NGSO FSS applicants and licensees, the “Growth Zones” proposal is no longer ripe for consideration. This proposal was intended to address the needs and compromises reached by those specific parties. Now, with neither the original satellite proponent nor any other NGSO FSS applicant currently pursuing licensing in the 10 GHz band, it would be inappropriate to act on the proposal at this time, and we are not adopting the “Growth Zones” proposal. Our decision not to adopt that plan is without prejudice to the merits of the proposal, and we note that parties are free to bring this matter before the Commission again if changing conditions warrant its consideration. Further, the prior coordination procedures between NGSO FSS and FS operations in the band that the Commission had previously adopted remain in effect.

IV. PROCEDURAL MATTERS

A. Regulatory Flexibility Act

25. The Final Regulatory Flexibility Analysis, required by the Regulatory Flexibility Act, *see* 5 U.S.C. § 604, is contained in Appendix B.

B. Paperwork Reduction Act

26. This document does not contain new or modified information collection requirements subject to the Paperwork Reduction Act of 1995 (“PRA”), Public Law 104-13. In addition, therefore, it does not contain any new or modified “information collection burden for small business concerns with fewer than 25 employees,” pursuant to the Small Business Paperwork Relief Act of 2002, Public Law 107-198, *see* 44 U.S.C. § 3506(c)(4).

⁴⁰ *See Notice*, 18 FCC Rcd at 26836, ¶ 9.

⁴¹ *See Notice*, 18 FCC Rcd at 26831, ¶ 1 n.1 (discussing *ex parte* comments by SkyBridge and FWCC, as well as the fact that there then were four applicants for NGSO FSS satellite systems in the 10 GHz band). *See also* SkyBridge/FWCC *Ex Parte* Comments in ET Docket No. 98-206, filed December 8, 1999, at 3.

⁴² *See Notice*, 18 FCC Rcd at 26836, ¶ 9 (discussing the conditions proposed by SkyBridge and FWCC for NGSO FSS earth station siting in the designated growth zones).

⁴³ *See* Letter from Gérard Dosogne, President and CEO of Skybridge L.L.C to Kevin Martin, Chairman, Federal Communications Commission (dated August 17, 2005).

⁴⁴ *See* Letter from Raul R. Rodriguez and Stephen D. Baruch, Attorneys for Virtual Geosatellite, LLC to Marlene H. Dortch, Secretary, Federal Communications Commission (dated February 5, 2007).

C. Congressional Review Act

27. The Commission will send a copy of this Report and Order in a report to be sent to Congress and the General Accounting Office pursuant to the Congressional Review Act, *see* 5 U.S.C. 801(a)(1)(A).

V. ORDERING CLAUSES

28. Accordingly, IT IS ORDERED that, pursuant to Sections 4(i), 303(c), 303(f), and 303(r) of the Communications Act of 1934, as amended, 47 U.S.C. Sections 154(i), 303(c), 303(f), and 303(r), this Report and Order IS ADOPTED and that Parts 74 and 78 of the Commission's Rules ARE AMENDED as specified in Appendix C, effective 30 days after publication in the Federal Register.

29. IT IS FURTHER ORDERED that the Commission's Consumer Information and Governmental Affairs Bureau, Reference Information Center, SHALL SEND a copy of this REPORT AND ORDER, including the Final Regulatory Flexibility Analysis, to the Chief Counsel for Advocacy of the Small Business Administration.

30. IT IS FURTHER ORDERED that ET Docket No. 03-254 IS TERMINATED.

FEDERAL COMMUNICATIONS COMMISSION

Marlene H. Dortch
Secretary

APPENDIX A**Commenters to the Notice****Comments**

Boeing Company
Fixed Wireless Communications Coalition and SkyBridge L.L.C. (Jointly)
SkyBridge L.L.C.
Society of Broadcast Engineers, Inc.

Reply Comments

Boeing Company
Globalstar, L.P., Globalstar USA, L.L.C., Globalstar Caribbean, Ltd.
Mobile Satellite Ventures Subsidiary L.L.C.
PanAmSat Corporation and SES Americom, Inc.
Society of Broadcast Engineers, Inc.
SkyBridge L.L.C.
XM Radio, Inc.

APPENDIX B

Final Regulatory Flexibility Analysis

As required by the Regulatory Flexibility Act (“RFA”),¹ an Initial Regulatory Flexibility Analysis (“IRFA”) was incorporated in the *Notice of Proposed Rule Making* (“NPRM”) in this proceeding. The Commission sought written comment on the proposals in the *NPRM*, including comments on the IRFA.² The present Final Regulatory Flexibility Analysis (“FRFA”) conforms to the RFA.

A. Need for, and Objectives of, the Report and Order

By this action (“Report & Order”), we modify our frequency coordination rules to promote sharing between non-geostationary satellite orbit (“NGSO”) and geostationary satellite orbit (“GSO”) fixed-satellite service (“FSS”) operations and various terrestrial services operating in several frequency bands. We decline to adopt a joint proposal by SkyBridge L.L.C. and the Fixed Wireless Communications Coalition (“SkyBridge/FWCC Growth Zone Proposal”) to supplement our existing coordination procedures to promote sharing between new NGSO FSS space-to-Earth (“downlink”) operations and existing Fixed Service (“FS”) operations in the 10.7-11.7 GHz (“10 GHz”) band.³ We do adopt such proposals for amending our frequency coordination rules to address situations where NGSO FSS and GSO FSS operations share spectrum with terrestrial operations in the FS, Broadcast Auxiliary Service (“BAS”) and Cable Television Relay Service (“CARS”) in various bands. Specifically, we:

- Apply the existing Parts 25 and 101 “notice and response” coordination rules for coordination of new FSS (both NGSO and GSO) earth stations with mobile BAS/CARS operations in the 6875-7075 MHz (“7 GHz”) and 12750-13250 MHz (“13 GHz”) bands, and consider whether any additions or modifications to the rules are needed to address the operating characteristics of mobile services;
- Allow either the Parts 74 and 78 informal *ad hoc* coordination rules or the Part 101 “notice and response” coordination rules to be used for the coordination of mobile BAS/CARS operations with FSS (both NGSO and GSO) earth stations, in the 7 GHz and 13 GHz bands, and consider whether any additions or modifications of these rules are needed; and,
- Apply the existing Parts 25 and 101 “notice and response” coordination rules for sharing between new NGSO FSS earth stations and fixed BAS/CARS operations in the 7 GHz and 13 GHz bands.

We undertake this proceeding to facilitate the introduction of new satellite and terrestrial services while promoting interference protection among the various users in these bands.

¹ See 5 U.S.C. § 603. The RFA, *see* 5 U.S.C. §§ 601-612, has been amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (“SBREFA”), Pub. L. No. 104-121, Title II, 110 Stat. 857 (1996).

² *NPRM*, 69 FR 4908 (Feb. 02, 2004), ¶ 64 and Appendix B.

³ SkyBridge/FWCC *Ex Parte* Comments in ET Docket No. 98-206, filed December 8, 1999, at 3. These *ex parte* comments are included in the docket file for this proceeding. SkyBridge filed one of the petitions for rulemaking (RM-9147) to which ET Docket No. 98-206 responds and was one of four applicants for NGSO FSS satellite systems in the 10 GHz band. The FWCC is a coalition of microwave equipment manufacturers, licensees, and their associations, and communications service providers and their associations, interested in terrestrial fixed microwave communications.

B. Summary of Significant Issues Raised by Public Comments and Response to IRFA

There were no comments filed that specifically addressed the rules and policies proposed in the IRFA.

C. Description and Estimate of the Number of Small Entities To Which the Rules Will Apply

The RFA generally defines the term “small entity” as having the same meaning as the terms “small business,” “small organization,” and “small governmental jurisdiction.”⁴ In addition, the term “small business” has the same meaning as the term “small business concern” under the Small Business Act.⁵ A small business concern is one which: (1) is independently owned and operated; (2) is not dominant in its field of operation; and (3) satisfies any additional criteria established by the Small Business Administration (“SBA”).⁶ A small organization is generally “any not-for-profit enterprise which is independently owned and operated and is not dominant in its field.”⁷ Nationwide, there are a total of approximately 29.6 million small businesses, according to the SBA.⁸ A “small organization” is generally “any not-for-profit enterprise which is independently owned and operated and is not dominant in its field.”⁹ Nationwide, as of 2002, there were approximately 1.6 million small organizations.¹⁰ The term “small governmental jurisdiction” is defined generally as “governments of cities, towns, townships, villages, school districts, or special districts, with a population of less than fifty thousand.”¹¹ Census Bureau data for 2002 indicate that there were 87,525 local governmental jurisdictions in the United States.¹² We estimate that, of this total, 84,377 entities were “small governmental jurisdictions.”¹³ Thus, we estimate that most governmental jurisdictions are small.

Cable Television Distribution Services. Since 2007, these services have been newly defined within the broad economic census category of Wired Telecommunications Carriers; that category is defined as follows: “This industry comprises establishments primarily engaged in operating and/or providing access to transmission facilities and infrastructure that they own and/or lease for the transmission of voice, data, text, sound, and video using wired telecommunications networks.

⁴ 5 U.S.C. § 601(6).

⁵ See *Id.* § 601(3) (incorporating by reference the definition of “small business concern” in 15 U.S.C. § 632). Pursuant to the RFA, the statutory definition of a small business applies “unless an agency, after consultation with the Office of Advocacy of the Small Business Administration and after opportunity for public comment, establishes one or more definitions of such term which are appropriate to the activities of the agency and publishes such definition(s) in the Federal Register.” *Id.*

⁶ See Small Business Act, 15 U.S.C. § 632.

⁷ 5 U.S.C. § 601(4).

⁸ See SBA, Office of Advocacy, “Frequently Asked Questions,” <http://web.sba.gov/faqs/faqindex.cfm?areaID=24> (revised Sept. 2009).

⁹ 5 U.S.C. § 601(4).

¹⁰ Independent Sector, *The New Nonprofit Almanac & Desk Reference* (2002).

¹¹ 5 U.S.C. § 601(5).

¹² U.S. Census Bureau, *Statistical Abstract of the United States: 2006*, Section 8, page 272, Table 415.

¹³ We assume that the villages, school districts, and special districts are small, and total 48,558. See U.S. Census Bureau, *Statistical Abstract of the United States: 2006*, section 8, page 273, Table 417. For 2002, Census Bureau data indicate that the total number of county, municipal, and township governments nationwide was 38,967, of which 35,819 were small. *Id.*

Transmission facilities may be based on a single technology or a combination of technologies.”¹⁴ The SBA has developed an associated small business size standard for this category, and that is: all such firms having 1,500 or fewer employees. To gauge small business prevalence for these cable services we must, however, use current census data that are based on the previous category of Cable and Other Program Distribution and its associated size standard; that size standard was: all such firms having \$13.5 million or less in annual receipts.¹⁵ According to Census Bureau data for 2002, there were a total of 1,191 firms in this category that operated for the entire year.¹⁶ Of this total, 1,087 firms had annual receipts of under \$10 million, and 43 firms had receipts of \$10 million or more but less than \$25 million.¹⁷ Thus, the majority of these cable firms can be considered to be small.

Cable Companies and Systems. The Commission has also developed its own small business size standards, for the purpose of cable rate regulation. Under the Commission’s rules, a “small cable company” is one serving 400,000 or fewer subscribers, nationwide.¹⁸ Industry data indicate that, of 1,076 cable operators nationwide, all but eleven are small under this size standard.¹⁹ In addition, under the Commission’s rules, a “small system” is a cable system serving 15,000 or fewer subscribers.²⁰ Industry data indicate that, of 7,208 systems nationwide, 6,139 systems have under 10,000 subscribers, and an additional 379 systems have 10,000-19,999 subscribers.²¹ Thus, under this second size standard, most cable systems are small.

Cable System Operators. The Communications Act of 1934, as amended, also contains a size standard for small cable system operators, which is “a cable operator that, directly or through an affiliate, serves in the aggregate fewer than 1 percent of all subscribers in the United States and is not affiliated with any entity or entities whose gross annual revenues in the aggregate exceed \$250,000,000.”²² The Commission has determined that an operator serving fewer than 677,000 subscribers shall be deemed a small operator, if its annual revenues, when combined with the total annual revenues of all its affiliates, do not exceed \$250 million in the aggregate.²³ Industry data indicate that, of 1,076 cable operators

¹⁴ U.S. Census Bureau, 2007 NAICS Definitions, “517110 Wired Telecommunications Carriers” (partial definition); <http://www.census.gov/naics/2007/def/ND517110.HTM#N517110>.

¹⁵ 13 C.F.R. § 121.201, NAICS code 517110.

¹⁶ U.S. Census Bureau, 2002 Economic Census, Subject Series: Information, Table 4, Receipts Size of Firms for the United States: 2002, NAICS code 517510 (issued November 2005).

¹⁷ *Id.* An additional 61 firms had annual receipts of \$25 million or more.

¹⁸ 47 C.F.R. § 76.901(e). The Commission determined that this size standard equates approximately to a size standard of \$100 million or less in annual revenues. *Implementation of Sections of the 1992 Cable Act: Rate Regulation*, Sixth Report and Order and Eleventh Order on Reconsideration, 10 FCC Rcd 7393, 7408 (1995).

¹⁹ These data are derived from: R.R. Bowker, *Broadcasting & Cable Yearbook 2006*, “Top 25 Cable/Satellite Operators,” pages A-8 & C-2 (data current as of June 30, 2005); Warren Communications News, *Television & Cable Factbook 2006*, “Ownership of Cable Systems in the United States,” pages D-1805 to D-1857.

²⁰ 47 C.F.R. § 76.901(c).

²¹ Warren Communications News, *Television & Cable Factbook 2006*, “U.S. Cable Systems by Subscriber Size,” page F-2 (data current as of Oct. 2005). The data do not include 718 systems for which classifying data were not available.

²² 47 U.S.C. § 543(m)(2); see 47 C.F.R. § 76.901(f) & nn. 1-3.

²³ 47 C.F.R. § 76.901(f); see Public Notice, *FCC Announces New Subscriber Count for the Definition of Small Cable Operator*, DA 01-158 (Cable Services Bureau, Jan. 24, 2001).

nationwide, all but ten are small under this size standard.²⁴ We note that the Commission neither requests nor collects information on whether cable system operators are affiliated with entities whose gross annual revenues exceed \$250 million,²⁵ and therefore we are unable to estimate more accurately the number of cable system operators that would qualify as small under this size standard.

Satellite Telecommunications and All Other Telecommunications. These two economic census categories address the satellite industry. The first category has a small business size standard of \$15 million or less in average annual receipts, under SBA rules.²⁶ The second has a size standard of \$25 million or less in annual receipts.²⁷ The most current Census Bureau data in this context, however, are from the (last) economic census of 2002, and we will use those figures to gauge the prevalence of small businesses in these categories.²⁸

The category of Satellite Telecommunications “comprises establishments primarily engaged in providing telecommunications services to other establishments in the telecommunications and broadcasting industries by forwarding and receiving communications signals via a system of satellites or reselling satellite telecommunications.”²⁹ For this category, Census Bureau data for 2002 show that there were a total of 371 firms that operated for the entire year.³⁰ Of this total, 307 firms had annual receipts of under \$10 million, and 26 firms had receipts of \$10 million to \$24,999,999.³¹ Consequently, we estimate that the majority of Satellite Telecommunications firms are small entities that might be affected by our action.

The second category of All Other Telecommunications comprises, *inter alia*, “establishments primarily engaged in providing specialized telecommunications services, such as satellite tracking, communications telemetry, and radar station operation. This industry also includes establishments primarily engaged in providing satellite terminal stations and associated facilities connected with one or more terrestrial systems and capable of transmitting telecommunications to, and receiving telecommunications from, satellite systems.”³² For this category, Census Bureau data for 2002 show that there were a total of 332 firms that operated for the entire year.³³ Of this total, 303 firms had annual receipts of under \$10 million and 15 firms had annual receipts of \$10 million to \$24,999,999.³⁴

²⁴ These data are derived from: R.R. Bowker, *Broadcasting & Cable Yearbook 2006*, “Top 25 Cable/Satellite Operators,” pages A-8 & C-2 (data current as of June 30, 2005); Warren Communications News, *Television & Cable Factbook 2006*, “Ownership of Cable Systems in the United States,” pages D-1805 to D-1857.

²⁵ The Commission does receive such information on a case-by-case basis if a cable operator appeals a local franchise authority’s finding that the operator does not qualify as a small cable operator pursuant to § 76.901(f) of the Commission’s rules. *See* 47 C.F.R. § 76.909(b).

²⁶ 13 C.F.R. § 121.201, NAICS code 517410.

²⁷ 13 C.F.R. § 121.201, NAICS code 517919.

²⁸ 13 C.F.R. § 121.201, NAICS codes 517410 and 517910 (2002).

²⁹ U.S. Census Bureau, 2007 NAICS Definitions, “517410 Satellite Telecommunications”; <http://www.census.gov/naics/2007/def/ND517410.HTM>.

³⁰ U.S. Census Bureau, 2002 Economic Census, Subject Series: Information, “Establishment and Firm Size (Including Legal Form of Organization),” Table 4, NAICS code 517410 (issued Nov. 2005).

³¹ *Id.* An additional 38 firms had annual receipts of \$25 million or more.

³² U.S. Census Bureau, 2007 NAICS Definitions, “517919 All Other Telecommunications”; <http://www.census.gov/naics/2007/def/ND517919.HTM#N517919>.

³³ U.S. Census Bureau, 2002 Economic Census, Subject Series: Information, “Establishment and Firm Size (Including Legal Form of Organization),” Table 4, NAICS code 517910 (issued Nov. 2005).

³⁴ *Id.* An additional 14 firms had annual receipts of \$25 million or more.

Consequently, we estimate that the majority of All Other Telecommunications firms are small entities that might be affected by our action.

Television Broadcasting. This Economic Census category “comprises establishments primarily engaged in broadcasting images together with sound. These establishments operate television broadcasting studios and facilities for the programming and transmission of programs to the public.”³⁵ The SBA has created the following small business size standard for Television Broadcasting firms: those having \$14 million or less in annual receipts.³⁶ The Commission has estimated the number of licensed commercial television stations to be 1,379.³⁷ In addition, according to Commission staff review of the BIA Publications, Inc., Master Access Television Analyzer Database (BIA) on March 30, 2007, about 986 of an estimated 1,374 commercial television stations (or approximately 72 percent) had revenues of \$13 million or less.³⁸ We therefore estimate that the majority of commercial television broadcasters are small entities.

We note, however, that in assessing whether a business concern qualifies as small under the above definition, business (control) affiliations³⁹ must be included. Our estimate, therefore, likely overstates the number of small entities that might be affected by our action, because the revenue figure on which it is based does not include or aggregate revenues from affiliated companies. In addition, an element of the definition of “small business” is that the entity not be dominant in its field of operation. We are unable at this time to define or quantify the criteria that would establish whether a specific television station is dominant in its field of operation. Accordingly, the estimate of small businesses to which rules may apply does not exclude any television station from the definition of a small business on this basis and is therefore possibly over-inclusive to that extent. In addition, the Commission has estimated the number of licensed noncommercial educational (NCE) television stations to be 380.⁴⁰ These stations are non-profit, and therefore considered to be small entities.⁴¹ There are also 2,295 low power television stations (LPTV).⁴² Given the nature of this service, we will presume that all LPTV licensees qualify as small entities under the above SBA small business size standard.

Radio Stations. This Economic Census category “comprises establishments primarily engaged in broadcasting aural programs by radio to the public. Programming may originate in their own studio, from an affiliated network, or from external sources.”⁴³ The SBA has established a small business size

³⁵ U.S. Census Bureau, 2007 NAICS Definitions, “515120 Television Broadcasting” (partial definition); <http://www.census.gov/naics/2007/def/ND515120.HTM#N515120>.

³⁶ 13 C.F.R. § 121.201, NAICS code 515120 (updated for inflation in 2008).

³⁷ See *FCC News Release*, “Broadcast Station Totals as of December 31, 2007,” dated March 18, 2008; http://www.fcc.gov/Daily_Releases/Daily_Business/2008/db0318/DOC-280836A1.pdf.

³⁸ We recognize that BIA’s estimate differs slightly from the FCC total given *supra*.

³⁹ “[Business concerns] are affiliates of each other when one concern controls or has the power to control the other or a third party or parties controls or has to power to control both.” 13 C.F.R. § 21.103(a)(1).

⁴⁰ See *FCC News Release*, “Broadcast Station Totals as of December 31, 2007,” dated March 18, 2008; http://www.fcc.gov/Daily_Releases/Daily_Business/2008/db0318/DOC-280836A1.pdf.

⁴¹ See generally 5 U.S.C. §§ 601(4), (6).

⁴² See *FCC News Release*, “Broadcast Station Totals as of December 31, 2007,” dated March 18, 2008; http://www.fcc.gov/Daily_Releases/Daily_Business/2008/db0318/DOC-280836A1.pdf.

⁴³ U.S. Census Bureau, 2007 NAICS Definitions, “515112 Radio Stations”; <http://www.census.gov/naics/2007/def/ND515112.HTM#N515112>.

standard for this category, which is: such firms having \$7 million or less in annual receipts.⁴⁴ According to Commission staff review of BIA Publications, Inc.'s *Master Access Radio Analyzer Database* on March 31, 2005, about 10,840 (95%) of 11,410 commercial radio stations had revenues of \$6 million or less. Therefore, the majority of such entities are small entities.

We note, however, that in assessing whether a business concern qualifies as small under the above size standard, business affiliations must be included.⁴⁵ In addition, to be determined to be a "small business," the entity may not be dominant in its field of operation.⁴⁶ We note that it is difficult at times to assess these criteria in the context of media entities, and our estimate of small businesses may therefore be over-inclusive.

Wireless Telecommunications Carriers (except Satellite). Since 2007, the Census Bureau has placed wireless firms within this new, broad, economic census category.⁴⁷ Prior to that time, such firms were within the now-superseded categories of "Paging" and "Cellular and Other Wireless Telecommunications."⁴⁸ Under the present and prior categories, the SBA has deemed a wireless business to be small if it has 1,500 or fewer employees.⁴⁹ Because Census Bureau data are not yet available for the new category, we will estimate small business prevalence using the prior categories and associated data. For the category of Paging, data for 2002 show that there were 807 firms that operated for the entire year.⁵⁰ Of this total, 804 firms had employment of 999 or fewer employees, and three firms had employment of 1,000 employees or more.⁵¹ For the category of Cellular and Other Wireless Telecommunications, data for 2002 show that there were 1,397 firms that operated for the entire year.⁵² Of this total, 1,378 firms had employment of 999 or fewer employees, and 19 firms had employment of 1,000 employees or more.⁵³ Thus, we estimate that the majority of wireless firms are small.

D. Description of Projected Reporting, Recordkeeping, and Other Compliance Requirements

We adopt changes to the Part 74 and 78 rules governing coordination between NGSO FSS and other terrestrial services. Generally our "notice and response" and *ad hoc* coordination rules will govern the use of

⁴⁴ 13 C.F.R. § 121.201, NAICS code 515112 (updated for inflation in 2008).

⁴⁵ "Concerns and entities are affiliates of each other when one controls or has the power to control the other, or a third party or parties controls or has the power to control both. It does not matter whether control is exercised, so long as the power to control exists." 13 C.F.R. § 121.103(a)(1) (an SBA regulation).

⁴⁶ 13 C.F.R. § 121.102(b) (an SBA regulation).

⁴⁷ U.S. Census Bureau, 2007 NAICS Definitions, "517210 Wireless Telecommunications Categories (Except Satellite)"; <http://www.census.gov/naics/2007/def/ND517210.HTM#N517210>.

⁴⁸ U.S. Census Bureau, 2002 NAICS Definitions, "517211 Paging"; <http://www.census.gov/epcd/naics02/def/NDEF517.HTM>; U.S. Census Bureau, 2002 NAICS Definitions, "517212 Cellular and Other Wireless Telecommunications"; <http://www.census.gov/epcd/naics02/def/NDEF517.HTM>.

⁴⁹ 13 C.F.R. § 121.201, NAICS code 517210 (2007 NAICS). The now-superseded, pre-2007 C.F.R. citations were 13 C.F.R. § 121.201, NAICS codes 517211 and 517212 (referring to the 2002 NAICS).

⁵⁰ U.S. Census Bureau, 2002 Economic Census, Subject Series: Information, "Establishment and Firm Size (Including Legal Form of Organization)," Table 5, NAICS code 517211 (issued Nov. 2005).

⁵¹ *Id.* The census data do not provide a more precise estimate of the number of firms that have employment of 1,500 or fewer employees; the largest category provided is for firms with "1000 employees or more."

⁵² U.S. Census Bureau, 2002 Economic Census, Subject Series: Information, "Establishment and Firm Size (Including Legal Form of Organization)," Table 5, NAICS code 517212 (issued Nov. 2005).

⁵³ *Id.* The census data do not provide a more precise estimate of the number of firms that have employment of 1,500 or fewer employees; the largest category provided is for firms with "1000 employees or more."

shared frequencies between FSS and BAS/CARS terrestrial services in the 7 and 13 GHz bands.⁵⁴ As noted in the section titled “Need for, and Objectives of, the Proposed Rules,” *supra*, in the 7 and 13 GHz bands, we are applying existing Parts 25 and 101 “notice and response” coordination rules for coordination of new FSS earth stations with mobile BAS/CARS operations; allowing either existing Part 74/78 *ad hoc* coordination rules or Part 101 “notice and response” coordination rules for coordination of new BAS/CARS mobile operations with FSS earth stations; and applying existing Parts 25 and 101 “notice and response” coordination rules for coordination of new FSS earth stations and new fixed BAS/CARS operations.⁵⁵

E. Steps Taken to Minimize Significant Economic Impact on Small Entities, and Significant Alternatives Considered

The RFA requires an agency to describe any significant, specifically small business, alternatives that it has considered in reaching its proposed approach, which may include the following four alternatives (among others): “(1) the establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities; (2) the clarification, consolidation, or simplification of compliance and reporting requirements under the rule for such small entities; (3) the use of performance rather than design standards; and (4) an exemption from coverage of the rule, or any part thereof, for such small entities.”⁵⁶

We adopt our proposals to provide adequate spectrum sharing criteria to minimize the potential for interference of these new NGSO FSS operations on incumbent operations, many of which qualify as small entities. Our coordination rules will ensure that BAS, CARS, and NGSO FSS services can operate sharing these bands without impacting other services’ operations. We also note that, in the Discussion Section of the *NRPM*, we requested comment from small businesses and other small entities concerning the alternatives proposed for our coordination rules.⁵⁷ We requested comment on our conclusions and any alternatives to our proposals that could minimize the impact of this action on small entities.

F. Federal Rules that May Duplicate, Overlap, or Conflict With the Proposed Rules

None.

Report to Congress: The Commission will send a copy of this Report and Order, including this FRFA in a report to be sent to Congress pursuant to the Congressional Review Act.⁵⁸ In addition, the Commission will send a copy of the Report and Order, including this FRFA, to the Chief Counsel for Advocacy of the SBA. A copy of the Report and Order and FRFA (or summaries thereof) will also be published in the Federal Register.⁵⁹

⁵⁴ See Notice ¶¶ 11-14, *supra*. See list of obligations at Notice ¶ 9, *supra*.

⁵⁵ See *NPRM* ¶¶ 22, 34.

⁵⁶ 5 U.S.C. § 603(c)(1) – (c)(4).

⁵⁷ See Notice ¶¶ 28, *supra*.

⁵⁸ See 5 U.S.C. § 801(a)(1)(A).

⁵⁹ See 5 U.S.C. § 604(b).

APPENDIX C**Final Rules**

For the reasons discussed in the preamble, the Federal Communications Commission amends 47 C.F.R. Parts 74 and 78 as follows:

PART 74 – EXPERIMENTAL RADIO, AUXILIARY, SPECIAL BROADCAST AND OTHER PROGRAM DISTRIBUTION SERVICES

1. The authority citation for Part 74 continues to read as follows:

Authority: 47 U.S.C. 154, 303 307, 336(f), 336(h) and 554.

2. Section 74.638 is amended by revising paragraph (a), paragraph (b), the introductory text of paragraph (c), and paragraph (d) to read as follows:

§ 74.638 Frequency coordination.

(a) Coordination of all frequency assignments for fixed stations in all bands above 2110 MHz, and for mobile (temporary fixed) stations in the bands 6425-6525 MHz and 17.7-19.7 GHz, will be in accordance with the procedure established in paragraph (b) of this section, except that the prior coordination process for mobile (temporary fixed) assignments may be completed orally and the period allowed for response to a coordination notification may be less than 30 days if the parties agree. Coordination of all frequency assignments for all mobile (temporary fixed) stations in all bands above 2110 MHz, except the bands 6425-6525 MHz and 17.7-19.7 GHz, will be conducted in accordance with the procedure established in paragraph (b) of this section or with the procedure in paragraph (d) of this section. Coordination of all frequency assignments for all fixed stations in the band 1990-2110 MHz will be in accordance with the procedure established in paragraph (c) of this section. Coordination of all frequency assignments for all mobile (temporary fixed) stations in the band 1990-2110 MHz will be conducted in accordance with the procedure in paragraph (d) of this section.

(b) For each frequency coordinated under this paragraph, the interference protection criteria in 47 CFR 101.105(a), (b), and (c) and the frequency usage coordination procedures in 47 CFR 101.103(d) will apply.

(c) For each frequency coordinated under this paragraph, the following frequency usage coordination procedures will apply:

* * *

(d) For each frequency coordinated under this paragraph, applicants are responsible for selecting the frequency assignments that are least likely to result in mutual interference with other licensees in the same area. Applicants may consult local frequency coordination committees, where they exist, for information on frequencies available in the area. In selecting frequencies, consideration should be given to the relative location of receive points, normal transmission paths, and the nature of the contemplated operation.

PART 78 – CABLE TELEVISION RELAY SERVICE

3. The authority for Part 78 continues to read as follows:

Authority: Secs. 2, 3, 4, 301, 303, 307, 308, 309, 48 Stat., as amended, 1064, 1065, 1066, 1081, 1082, 1083, 1084, 1085; 47 U.S.C. 152, 153, 154, 301, 303, 307, 308, 309.

4. Section 78.36 is amended to revise paragraph (a), the introductory text of paragraph (b), paragraph (b)(1), the introductory text of paragraph (c), and paragraph (d) to read as follows:

§ 78.36 Frequency coordination.

(a) Coordination of all frequency assignments for fixed stations in all bands above 2110 MHz, and for mobile (temporary fixed) stations in the bands 6425-6525 MHz and 17.7-19.7 GHz, will be in accordance with the procedure established in paragraph (b) of this section, except that the prior coordination process for mobile (temporary fixed) assignments may be completed orally and the period allowed for response to a coordination notification may be less than 30 days if the parties agree. Coordination of all frequency assignments for all mobile (temporary fixed) stations in all bands above 2110 MHz, except the bands 6425-6525 MHz and 17.7-19.7 GHz, will be conducted in accordance with the procedure established in paragraph (b) of this section or with the procedure in paragraph (d) of this section. Coordination of all frequency assignments for all fixed stations in the band 1990-2110 MHz will be in accordance with the procedure established in paragraph (c) of this section. Coordination of all frequency assignments for all mobile (temporary fixed) stations in the band 1990-2110 MHz will be conducted in accordance with the procedure in paragraph (d) of this section.

(b) For each frequency coordinated under this part, the interference protection criteria in 47 CFR 101.105(a), (b), and (c) and the following frequency usage coordination procedures will apply:

(1) General requirements. Proposed frequency usage must be prior coordinated with existing licensees, permittees, and applicants in the area, and other applicants with previously filed applications, whose facilities could affect or be affected by the new proposal in terms of frequency interference on active channels, applied-for channels, or channels coordinated for future growth. Coordination must be completed prior to filing an application for regular authorization, or a major amendment to a pending application, or any major modification to a license. In coordinating frequency usage with stations in the fixed satellite service, applicants must also comply with the requirements of 47 CFR 101.21(f). In engineering a system or modification thereto, the applicant must, by appropriate studies and analyses, select sites, transmitters, antennas and frequencies that will avoid interference in excess of permissible levels to other users. All applicants and licensees must cooperate fully and make reasonable efforts to resolve technical problems and conflicts that may inhibit the most effective and efficient use of the radio spectrum; however, the party being coordinated with is not obligated to suggest changes or re-engineer a proposal in cases involving conflicts. Applicants should make every reasonable effort to avoid blocking the growth of systems as prior coordinated. The applicant must identify in the application all entities with which the technical proposal was coordinated. In the event that technical problems are not resolved, an explanation must be submitted with the application. Where technical problems are resolved by an agreement or operating arrangement between the parties that would require special procedures be taken to reduce the likelihood of interference in excess of permissible levels (such as the use of artificial site shielding) or would result in a reduction of quality or capacity of either system, the details thereof may be contained in the application.

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(c) For each frequency coordinated under this Part, the following frequency usage coordination procedures will apply:

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(d) For each frequency coordinated under this Part, applicants are responsible for selecting the frequency assignments that are least likely to result in mutual interference with other licensees in the same area. Applicants may consult local frequency coordination committees, where they exist, for information on

frequencies available in the area. In selecting frequencies, consideration should be given to the relative location of receive points, normal transmission paths, and the nature of the contemplated operation.